

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

April 4, 2005

TO: Internal File

THRU: Wayne Western, Team Lead

FROM: Steve Fluke, Reclamation Hydrogeologist

RE: IBC - Penta Creek Fee Lease, West Ridge Resources, Inc., West Ridge Mine, C/007/0041, Task ID #2172

SUMMARY:

The Division of Oil, Gas and Mining (the Division) received an Incidental Boundary Change (IBC) application on June 4, 2004 from West Ridge Resources, Inc. (West Ridge). The IBC requested a modification of their mining and reclamation plan to include the 50.0-acre Penta Creek Fee Lease area located south of Grassy Trail Reservoir and was assigned Task ID #1942 by the Division. The proposed additional mining due to the Penta Creek Fee Lease acquisition would change the position of Panels 7 and 8, lengthen the existing projections of Panels 7 and 8, and place the 20° angle-of-draw to within 300 to 400 feet of the Grassy Trail Reservoir. Following a Technical Analysis (TA) review by the Division with deficiencies, the application was withdrawn and returned to the Permittee on February 22, 2005.

On March 7, 2005 the Permittee resubmitted an IBC to include developmental mining only extending into the 50-acre Penta Creek Fee Lease area and has been assigned Task ID #2172 by the Division. A submittal to longwall mine into this area is pending the completion of a seismic analysis report that will include the hydrology and geology of the area around the Grassy Trail Reservoir. The 50.0-acre addition is for underground, developmental mining with no associated surface disturbance. This memo addresses the hydrology section of the IBC.

Hydrologic information provided is sufficient to meet the requirements of the Coal Mining Rules. The proposed amendment should be approved.

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TECHNICAL ANALYSIS:

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

HYDROLOGIC RESOURCE INFORMATION

Regulatory Reference: 30 CFR Sec. 701.5, 784.14; R645-100-200, -301-724.

Analysis:

Sampling and Analysis

No additional monitoring locations are to be included into the existing water monitoring program. As stated on page 7-3, Sampling and Analysis, of the mine's existing M&RP, "water quality sampling and analyses have been and will be conducted according to the "Standard Methods for the Examination of Water and Waste Water" or EPA methods listed in 40 CFR parts 136 and 434".

Probable Hydrologic Consequences Determination

The Probable Hydrologic Consequences Determination (PHC) does not need to be updated to include developmental mining into 50-acre Penta Creek Fee Lease area. If longwall mining were to be permitted into the 50-acre Penta Creek Fee Lease area, the PHC will need to be updated with the hydrologic and geologic information provided by the seismic analysis report being prepared to study effects of longwall mining on Grassy Trail dam and reservoir. Although the mine workings are not projected to be below or within the angle of draw of the Grassy Trail Reservoir, because of the importance of the reservoir as a water source for Sunnyside City and East Carbon City, impact potentials should be carefully considered. For example, effects caused by subsidence such as fracturing outside of the angle of draw or encountering previously unidentified faults during mining that intersect the reservoir could provide pathways for water migration and the ultimate drainage of the reservoir.

Groundwater Monitoring Plan

According to Map 7-5, Seep/Spring Survey Map, four seeps or springs have been inventoried within the Penta Creek Fee Lease area as part of the October 1985 inventory. One of these springs, SP-15, is located at the northwest corner of the Penta Creek Fee Lease area and is included in the existing water monitoring program to be sampled quarterly for field and

laboratory parameters. No additional spring or seep monitoring is needed to adequately represent the groundwater hydrology potentially affected by the additional mining.

Surface-Water Monitoring Plan

Grassy Trail Creek is located within the northeast portion of the Penta Creek Fee Lease area. This section of Grassy Trail Creek, downstream of the Grassy Trail Reservoir, is perennially flowing due to discharge from the reservoir. Although the creek is within the 50-acre fee lease area, it is not being undermined nor is it within the angle of draw of the mine workings. Stream monitoring site ST-8 is located approximately one mile downstream of the lease area. No additional stream monitoring sites are needed to adequately represent the surface water hydrology potentially affected by the additional mining.

Findings:

Hydrologic Resource Information is sufficient to meet the requirements of the Coal Mining Rules.

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

Analysis:

Monitoring and Sampling Location Maps

Plate 7-5, Seep/Spring Survey Map, Plate 7-6, Hydrologic Monitoring Map (Historical Monitoring Locations), and Plate 7-7, Operational Monitoring Locations, have all been updated to include the boundaries of the 50-acre Penta Creek Fee Lease area. No additional hydrologic monitoring or sampling locations are needed to update the maps.

Subsurface Water Resource Maps

Plate 7-3, Water Rights, has been updated to include the 50-acre Penta Creek Fee Lease area.

Surface Water Resource Maps

Plate 7-3, Water Rights, has been updated to include the 50-acre Penta Creek Fee Lease area.

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Findings:

The Maps, Plans, and Cross Sections of Resource Information provided in the IBC adequately address the minimum requirements of the regulations.

OPERATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

Analysis:

Groundwater Monitoring

No additional spring, seep, or well monitoring is needed to adequately represent the groundwater hydrology potentially affected by the additional mining.

Surface Water Monitoring

No additional stream monitoring sites are needed to adequately represent the surface water hydrology potentially affected by the additional mining.

Diversions: Perennial and Intermittent Streams

No new disturbed surface areas are proposed for the 50-acre Penta Creek Fee Lease area.

Stream Buffer Zones

No underground mining within 100 feet of a perennial stream is proposed for the 50-acre Penta Creek Fee Lease area.

Findings:

The Hydrologic Information of the Operation Plan provided in the IBC adequately addresses the minimum requirements of the regulations.

RECLAMATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 784.14, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-301-512, -301-513, -301-514, -301-515, -301-532, -301-533, -301-542, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-733, -301-742, -301-743, -301-750, -301-751, -301-760, -301-761.

Analysis:

Hydrologic Reclamation Plan

No update to the existing hydrologic reclamation plan was submitted because no new surface disturbance is planned for the 50-acre Penta Creek Fee Lease area.

Findings:

The permittee has submitted sufficient information to address this section.

CUMULATIVE HYDROLOGIC IMPACT ASSESSMENT

Regulatory Reference: 30 CFR Sec. 784.14; R645-301-730.

Analysis:

The Division does not need to update the Book Cliffs Area – III Cumulative Hydrologic Impact Assessment (CHIA) to incorporate the proposed 50-acre Penta Creek Lease area of the West Ridge Mine.

Findings:

The permittee has submitted sufficient information to address this section.

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RECOMMENDATIONS:

Hydrologic information provided is sufficient to meet the requirements of the Coal Mining Rules. The proposed amendment should be approved.

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